

VII.—On some Secondary Sexual Characters in the Genus *Aranca*, Linn. By F. PICKARD-CAMBRIDGE, B.A., F.Z.S.

WHILE recently making an analysis of the characters of the spiders belonging to the genus *Aranea* (*Epeira*, auct.), with the object of finding any which might prove valuable in relation to the numerous subdivisions of the group, I have discovered some peculiar to the male sex which have not, I believe, been recorded hitherto.

It is well known that on the coxa of the first pair of legs there is in very many species a hook-like apophysis at its posterior angle beneath, though the use of it has not been recognized. In correlation, however, with this hook I find on the anterior margin of the femora of the second pair of legs, quite at the base, a long groove distally shallow, basally quite deep, bounded in front by a long chitinous ridge. If coxa i. be raised and the second leg depressed this hook will slide down the groove and become locked in the deep pit at the base.

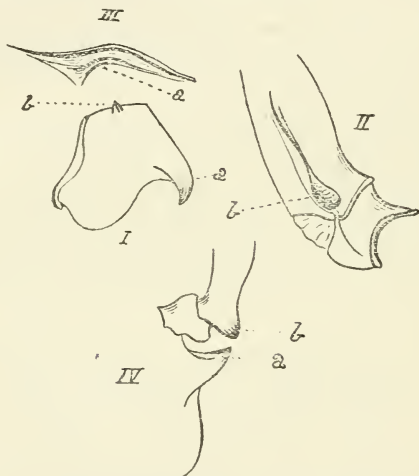
Again, on the upperside of the coxa of leg i. there is in some species (*vertebrata*, McCook, and *purpurascens*, O. P.-Cambr., *e. g.*) a rounded or sharp tubercle which works against a chitinous ridge beneath the raised margin of the carapace. There is, moreover, on the coxal segment of the pedipalp (*maxilla*) towards its distal extremity a sharp tubercle or spur, which is developed in correlation with a chitinous tubercle at the base of the femur of the pedipalp, so that if the pedipalp were moved rapidly from the trochantal joint the two tubercles would come in contact. This last structure has been found in all the species I have hitherto been able to examine.

At present one can merely record these facts without being able to suggest what may be the precise function of the tubercles and grooves in question. Probably all of them are used, when the male moves the fore legs and palpi rapidly in challenging the female to the combat of love (for it is literally such amongst members of this particular family, in which the former sex often gets the worst of it), in producing a clicking noise to frighten the female and reduce her to a frame of mind sufficiently reasonable to admit of the approach of the male.

Possibly, on the other hand, they may have no such function, but may merely be used for locking the fore legs and the base of the pedipalp, to prevent their being wrenched off in the tussle of holding the female with the specialized clasping-

spines on tibia ii. and performing with the palpi the act of copulation.

I may remark that in those species in which there is no hook on coxa i. of the legs there is also an absence of the specialized groove at the base of femur ii.



*Aranea purpurascens*, O. P.-Cambridge, ♂.

- I. Coxa of the first leg, with (a) the hook-like apophysis and (b) the conical tubercle.
- II. Femur (and trochanter) of the second leg, with (b) the groove into which the hook-like apophysis fits.
- III. Portion of the margin of the carapace, showing at a the chitinous ridge, used in correlation with the tubercle on coxa i.
- IV. Coxa, trochanter, and base of femur of the pedipalp, showing the specialized tubercles, on the coxa at a, on the femur at b.

VIII.—Notes on Forficulidæ, with Descriptions of new Species in the Collection of the Natural History Museum, South Kensington. By W. F. KIRBY, F.L.S., F.E.S.

I HAVE now completed the arrangement of the collection of Orthoptera in the Natural History Museum, and am preparing for press my working catalogue of the whole order, which, it is hoped, will be completed in the course of next year.